# White paper

December 2007

# Z770i

## Powerful elegant clamshell

![Sony Ericsson logo]

**Sony Ericsson**

# Preface

## Purpose of this document

This White paper will be published in several revisions as the phone is developed. Therefore, some of the headings and tables in this document contain limited information. Additional information and facts will be forthcoming in later revisions.

The aim of this White paper is to give the reader an understanding of the main functions and features of this phone.

People who can benefit from this document include:

- Operators
- Service providers
- Software developers
- Support engineers
- Application developers

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# Sony Ericsson Developer World

On www.sonyericsson.com/developer, developers will find documentation and tools such as phone White papers, Developers guidelines for different technologies, SDKs and relevant APIs. The Web site also contains discussion forums monitored by the Sony Ericsson Developer Support team, an extensive Knowledge Base, Tips & Tricks, example code and news.

Sony Ericsson also offers technical support services to professional developers. For more information about these professional services, go to the Sony Ericsson Developer World Web site.

# Document history

| Change history | | |
|---|---|---|
| 2007-09-29 | Version 1 | First version |
| 2007-11-06 | Version 2 | Second version |
| 2008-01-29 | R1A | Third revision |
| 2008-04-21 | R2A | 4th revision |

# Product overview

Z770i is a compact and elegant clamshell phone with a large 2.2-inch 262k Quarter Video Graphics Array (QVGA) colour screen. It delivers highly integrated Web functions like Media, Web feeds, video and picture blog. Fast High-Speed Downlink Packet Access (HSDPA) access, personalization of Really Simple Syndication (RSS) and Widgets, ActiveSync™ email make the phone an optimum choice for Web communication.

Memory capacity is up to 32 MB internally and includes a reader for cards. You can use the 2.0 megapixel camera and 2.5x digital zoom to capture high quality pictures. Share your photos and video clips with picture and video blogging, email or MMS. With the preloaded Google Maps™ Mobile application, you can get the latest maps and directions all over the world straight to your phone.

Features include:

- 2.0 megapixel camera
- Easy-to-use  vertical camera menu
- 2.2-inch mineral glass high resolution display
- The ability to share full-size images using mobile blogging
- Video blogging
- Web browser supporting HTML
- Magnetic mouse pointer for Web browsing
- Enhanced Web browser
- Fast HSDPA access
- ActiveSync™ email
- PictBridge™ to print pictures directly using a printer
- Slide shows with music, transitions and more
- 3D gaming
- Web feeds

- FM radio with Radio Data System (RDS) and track identification
- A handsfree  provided in the kit
- A memory card reader for Memory Stick Micro™ (M2™) memory cards
- Google Maps Mobile
- Video recording indicator on sub-display

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# Key features

### TrackID™

TrackID™ enables the user to identify a track playing on the built-in radio, or a track playing in the room. A few seconds of the song is sampled, the phone connects to an online database, which identifies the song and returns Title, Artist and Album information.

### 2.0 Megapixel camera

The main camera is 2.0 megapixel to take quality pictures with ease. It records video clips with 2.5x digital zoom, and saves them in the phone or on a memory card. A picture or video clip can be shared as a picture message or email message with friends or family, or using any available transfer method such as Bluetooth™ wireless technology.

### 2.2-inch colour screen

The large 2.2-inch (240x320 pixels) full graphic QVGA 262k colour screen enhances viewing, facilitating high-quality multimedia and entertainment.

### Video camera

The built-in camera captures a video recording and saves it in the phone or on a memory card. A video clip can be shared as a picture message or email with friends or family, or using any available transfer method such as Bluetooth™ wireless technology. The phone supports QVGA size video recording.

### Web feeds

A built-in RSS (Really Simple Syndication) Reader is used in combination with the Internet browser. When browsing, frequently updated content such as news headlines or podcasts can be received as feeds.

### Web feeds ticker

News headlines you subscribe to can be shown in standby using Web feeds.

### HTML Web browser support

Browse the Internet and look at Web sites in a different way with Access NetFront 3.4 – an HTML browser which supports a complete Web standard suite.

### Landscape browsing support

View Web pages and navigate your bookmarks in landscape mode.

### Mobile blogging

Send pictures and video clips using the Internet to show on your personal blog, allowing people easy access to view and comment on your pictures and video clips.

### Photo tags

Navigate through your captured photos and thousands of downsized photos transferred from your computer. View captured photos and video clips in an intuitive timeline view. Play animated slide shows with music and different moods. Tag your photos to find them faster.

### PictBridge™ – Camera printing

Transfer images from the phone using the USB cable directly to a printer, without a computer or photo editing software.

### Push email

The phone supports push email, a method of pushing new email messages automatically to mobile devices. Push email increases mobile email usability, with email being delivered in the background (similar to SMS or MMS).

### GPS accessory support

Connect to a GPS accessory either through Fast Port or Bluetooth wireless technology. The phone supports Google maps, Wayfinder™ and navigation applications.

### Media

A unique Sony Ericsson media experience. All media can be accessed directly from the desktop. Navigate seamlessly through captured photos and video clips, pictures, photo tags, music, videos and more.

### Music player

Located in Media. Play downloaded music and audio. The navigation system enables you, for example, to browse through your favourite tracks and create simple playlists.

### Video player

Located in Media. Play saved and downloaded video clips.

### Sony Ericsson Media Manager

Music, photo and video clip management software is available on the CD which is included in the kit. Transfer music, video clips and photos to and from your phone. Prepare files for transfer even when your phone is not connected to your computer. Search for and select music on your computer or audio CDs and convert your existing audio tracks to formats that are suitable for mobile use before transferring them to your phone. You can also subscribe to feeds such as video and music podcasts.

### PlayNow™

A unique and easy-to-use direct link for the downloading of content in the form of music files, games, themes and images. For example, select PlayNow™ and go straight to a live list of top music hits.

All formats that are supported in the phone are possible to download. Music, video clips and images may be previewed before purchase. The music formats are MIDI, MP3, MP4, Real® 8 or WAV (Polyphonic 24 voices or more).

### 3D Gaming

Gaming is a popular feature in mobile phones. With Java™, users can download new games and skill levels to further enhance their entertainment experience. Several embedded games are included in the phone at purchase.

### Java™

Download additional applications which are information- and entertainment-based. This gives users a chance to personalize the functions and features in their phones, and developers the opportunity to create new applications. Java Platform 8 (JP-8), supports a range of new Java programming features including

instant messaging (chat) and presence-based functionality, handling banking, payment transactions, user identification and authentication through secure encryption technology.

### Bluetooth™ wireless technology

Several devices (simultaneous Bluetooth™ connections) can be connected up to 10 metres (33 feet) away using Bluetooth wireless technology. For example, when the phone rings, it can be answered with a Bluetooth headset, and images can be sent to another phone at the same time. Several mobile phones can take part in a Bluetooth-supported game and the phone and a computer can exchange data such as images, video clips, vCards, music files and calendar data. Bluetooth version 2.0 is supported.

### Bluetooth™ audio streaming

Listen to audio in compatible devices. By connecting a Bluetooth A2DP compatible accessory, such as a stereo Bluetooth headset or a Bluetooth music receiver, you can enjoy high quality stereo audio streaming wirelessly from the phone. Many A2DP accessories also support the Bluetooth Audio Video Remote Control Profile (AVRCP) allowing you to control the music player in the phone using the accessory interface.

### USB 2.0 mass storage

When connecting the phone to a computer using the provided USB cable, the memory in the phone appears on the computer screen as a removable disk along with other disks and drives in the computer. You can then quickly and easily drag and drop items such as images, documents, music and video clips between folders in the phone and the computer.

### Media Transfer Protocol (MTP)

With Media Transfer Protocol you can transfer media files and synchronize playlists when the phone is connected to the computer using the USB cable. It is possible to use MTP in Media transfer mode or Phone mode. MTP is supported by Windows Media® Player 10 and 11 in Windows XP and in Windows Vista™ it is also supported.

### Personal Information Management (PIM)

Stay up-to-date with everyday events by synchronizing phone contacts, calendar appointments, tasks and notes in the phone with similar programs in a computer. The USB cable which comes with the phone, or the built-in Bluetooth feature can be used together with the synchronization software which is available on the CD in the kit or can be downloaded from www.sonyericsson.com/support. Smart search your contacts and call list for phone numbers or names from standby.

### Common Internet File System (CIFS)

The Common Internet File System enables file transfer to and from your phone. The phone acts as a file server which allows you to copy and move files between your PC and the server. You can use this feature when connected using the USB cable or the Bluetooth connection.

# Images

# Technologies in detail

This chapter includes short descriptions of the technologies available in this product compared to other Sony Ericsson products.

# Functions and features

The following includes short descriptions of the technologies available in Z770i compared to K660 and Z610.

| Feature | Z770i | K660 | Z610 |
|---|---|---|---|
| **3D games** | Yes | Yes | Yes |
| **3G enabled** | Yes | Yes | Yes |
| **Activity menu (multi-tasking)**<br><br>The user can easily handle missed calls, new text and picture messages, task reminders, shortcuts and get quick access to favourite Internet bookmarks | Yes<br>with enhanced functionality for background applications | Yes<br>with enhanced functionality for background applications | Yes<br>with enhanced functionality for background applications |
| **Alarm clock**<br><br>Set up to five individual times for single or recurring weekly alarms | Yes | Yes | Yes |
| **Auto rotate**<br><br>The picture appears as a landscape or portrait picture, as it was originally taken | No | No | No |
| **Backlight**<br><br>White backlight to illuminate the phone screen | Yes | Yes | Yes |
| **Battery** | BST-38 3.6 V, 930 mAh, Lithium Polymer | BST-33 3.6 V, 950 mAh, Lithium Polymer | 3.6 V, 950 mAh, Lithium Polymer |
| **Battery charging time** | At least 90% charged within 2 hours. Fully charged within 2.5 hours | At least 90% charged within 2 hours. Fully charged within 2.5 hours | At least 90% charged within 2 hours. Fully charged within 2.5 hours |
| **BestPic™**<br><br>Enhance picture taking by automatically capturing a range of 9 pictures ranging from before to after a camera key press. Select the best picture to catch the moment. You can also save more than one picture.<br><br>Select BestPic™ speed | No<br><br><br><br><br><br>No | No<br><br><br><br><br><br>No | No<br><br><br><br><br><br>No |

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| Feature | Z770i | K660 | Z610 |
|---|---|---|---|
| **Bluetooth™ audio streaming**<br><br>Listen to audio in compatible devices | Yes | Yes | Yes |
| **Bluetooth™ audio video remote control**<br><br>Control music player functions from a Bluetooth™ accessory, and control the volume in the accessory from the phone | Yes | Yes | Yes |
| **Bluetooth™ PAN**<br><br>Connect the phone to Internet using Bluetooth™ | Yes | Yes | Yes |
| **Bluetooth™ wireless technology**<br><br>Wireless connectivity between devices within a range of up to 10 metres (33 feet). Support for specification of the Bluetooth System, version 2.0 | Yes | Yes | Yes |
| **Business card exchange**<br><br>Exchange contact information | Yes | Yes | Yes |
| **Calculator** | Yes | Yes | Yes |
| **Calendar**<br><br>Calendar with day, week and month views and reminders | Yes | Yes | Yes |
| **Call list**<br><br>View calls made and received | Yes | Yes | Yes |
| **Camera** | 2.0 Megapixel | 2.0 Megapixel | 2.0 Megapixel |
| **Camera active lens cover**<br><br>Open the cover and camera functionality starts automatically | No | No | No |
| **Camera auto focus**<br><br>The camera automatically focuses on the subject in a focus area in the screen/ viewfinder | No | No | No |
| **Camera file browser**<br><br>Browse the picture folder without leaving the camera function | Yes | Yes | Yes |
| **Camera flash** | No | No | No |

| Feature | Z770i | K660 | Z610 |
|---|---|---|---|
| **Camera image stabilizer**<br><br>Picture and video image stabilizer functionality. If available, use to keep the image steady | No | No | No |
| **Camera key**<br><br>A dedicated camera key | No | Yes | Yes |
| **Camera keys on top**<br><br>When the camera is used in horizontal mode, the side keys with camera functionality are on top, for a digital still camera feel. For photo key functionality, see also "Keys – side and other" on page 19 | No | Yes | No |
| **Camera menu**<br><br>Easy-to-use horizontal digital camera menu | No | Yes | Yes |
| **Camera mode switch**<br><br>Use to switch between picture, video and play modes | No | No | No |
| **Camera on/off key**<br><br>A dedicated camera on/off key. Press and hold to activate the integrated camera and to open the lens cover | No | No | Yes |
| **Camera red eye reduction** | No | No | No |
| **Camera scene modes**<br><br>Use predefined settings when taking pictures in different environments, for example, at night or fast-moving objects | No | No | No |
| **Camera settings bar**<br><br>Settings bar with options and info texts | Yes | Yes | Yes |
| **Chinese input method**<br><br>Chinese input methods: Text input methods based on Simplified or Traditional Chinese. Bopomofo, Pinyin or Stroke | Yes | Yes | Yes |
| **Clock**<br><br>On-screen clock that keeps time even when the phone is off | Yes | Yes | Yes |

| Feature | Z770i | K660 | Z610 |
|---|---|---|---|
| **Co-branding area** | Yes | TBI | Outside: 24 x 6.8 mm<br>Inside: 43.45 x 9.9 mm |
| **Code memo**<br><br>A safe place to save all PIN codes and other information. To access Code memo, only one PIN code is needed | Yes | Yes | Yes |
| **Colour** | Graphite Black<br>Vogue Red<br>Exquisite Gold | Lime on White,<br>Wine on Black,<br>Silver on Black | Luster Black<br>Airy Blue<br>Rose Pink |
| **Contacts**<br><br>Phonebook with fields for name, phone and fax numbers, email address, Web site, title, company address info, personal address info and birthday | Yes | Yes | Yes |
| **Conference calls**<br><br>Support for multiparty calling | Yes | Yes | Yes |
| **Connector A1 (Fast port)** | Yes (side) | Yes (bottom) | No |
| **Content online**<br><br>Downloadable pictures, games, themes, ringtones available online | Yes | Yes | Yes |
| **Copyright protection - DRM**<br><br>DRM (Digital Rights Management) features the rights and copy protection of downloaded content (audio, pictures, music tones, video clips and entertainment features such as games, Java applications etc.) | Yes, OMA DRM 1.0 and OMA DRM 2.0 | Yes, OMA DRM 1.0 and OMA DRM 2.0 | Yes |
| **Design** | Clamshell form | Stick form | Clamshell |
| **Device Management (DM)**<br><br>DM utilizes GPRS as a bearer (basic network connectivity needs to be in place) of the provisioning data and allows the operator to access the phone, check and send out different settings such as network connectivity (GPRS), email, MMS, WAP and Java™. Device Management is achieved by supporting OMA Client Provisioning 1.1 (CP) and OMA Device Management (DM) 1.2 | Yes | Yes | Yes |

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| Feature | Z770i | K660 | Z610 |
|---|---|---|---|
| **Digital zoom** | 2.5x for pictures (VGA mode) 2.5x for video clips | 2.5x for pictures (VGA mode) 4x for video clips 2x for video calls | 2.5x (VGA only) |
| **Email** Built-in email client with inbox, outbox, compose/send and other functions | Yes | Yes | Yes |
| **EMS (Enhanced messaging)** Text messaging (SMS) with support for pictures and sounds Note: EMS is not available for operators who use unified messaging | Yes | Yes | Yes |
| **Exterior description** Size mm (Length x width x thickness/thinnest) | 93.8x 47.5 x 15.5 | 104 x 47 x 15 | 94.3x 49.0 x 20.0 |
| **External antenna connector** For use with an advanced car handsfree accessory | No | No | Yes |
| **Fast port** A system connector which enables faster data transfer between the phone and a computer | Yes | Yes | Yes |
| **File manager** Folder structure storage to help save and organize pictures, sounds and other phone content | Yes with enhanced functionality for camera content | Yes with enhanced functionality for camera content | Yes with enhanced functionality for camera content |
| **Flash themes** | Yes | Yes | No |
| **Flight mode** All phone radio transceivers are inactivated. Flight mode starts the phone so that only certain functions are available, such as the calendar, the music player or a game. The phone may then be used in some areas, such as aeroplanes or hospitals, where full mobile phone functionality is not allowed | Yes | Yes | Yes |
| Bluetooth™ function availability in Flight mode | Yes | Yes | Yes |

| Feature | Z770i | K660 | Z610 |
|---|---|---|---|
| **FM radio with RDS**<br><br>FM radio with presets, auto and manual search. The handsfree is used as an antenna. The radio can also be used as an alarm signal | Yes | Yes | No |
| **FM radio with TrackID™**<br><br>Identify tracks playing on the radio | Yes | Yes | No |
| **Games download**<br><br>Add more games to your phone | Yes | Yes | Yes |
| **Games embedded** | Yes | Yes | Yes |
| **GPRS**<br><br>General Packet Radio Services – a communications standard enabling packet data transfer of 21.4 Kbps per time slot. Multislot class 10 supported (max 5 simultaneously) | Yes | Yes | Yes |
| **High Speed Data**<br><br>HSCSD – a communications standard enabling GSM data transfer 14.4 Kbps. | Yes | Yes | Yes |
| HSDPA – High Speed Downlink Packet Access | Yes | Yes | No |
| **Icon Desktop 12**<br><br>A graphic icon desktop with 12 interactive icons | Yes | Yes | Yes |
| **Image formats** | | | |
| **5 MP** (2592x1944 pixels) | No | No | No |
| **3 MP** (2048x1536 pixels) | No | No | No |
| **2 MP** (1632x1224 pixels)<br>**1 MP** (1280x960 pixels) | Yes | Yes | Yes |
| | Yes | Yes | Yes |
| **VGA** (640x480 pixels) | Yes | Yes | Yes |
| Note: MP = Megapixel. When the picture stabilizer is on, the image size may be slightly reduced | | | |

| Feature | Z770i | K660 | Z610 |
|---|---|---|---|
| **Infrared port**<br><br>A wireless connector enabling the user to connect the phone to a laptop or another infrared device in order to share pictures, synchronize calendar or use the phone as a modem | No | No | No |
| **Instant messaging (Wireless Village/My friends)**<br><br>Chat – several people can take part in a mobile messaging session.<br>Instant messaging/Wireless Village server community | Yes | Yes | Yes |
| **Internet blogging**<br><br>Share up to full-size pictures over the Internet on your personal Web site. The size of uploaded pictures is dependent on customizations | Yes | Yes | No |
| **Internet browser**<br><br>cHTML – A mobile device adapted version of the standard Internet communications protocol HTML. | Yes<br><br>Yes | Yes<br><br>Yes | Yes<br><br>Yes |
| Full HTML support, ECMA script, DOM level 1& 2, etc. | Yes | Yes | Yes |
| Progressive download of video files. | Yes | Yes | Yes |
| Direct access to Search Internet and Enter address | Yes | Yes | No |
| **Internet security**<br><br>Encrypts confidential information such as credit card and bank account numbers. Necessary for mobile banking and shopping | Yes, SSL/TLS | Yes, SSL/TLS | Yes, SSL/TLS |

| Feature | Z770i | K660 | Z610 |
|---|---|---|---|
| **Java™**<br><br>Support for J2ME™ technology<br><br>Java Platform 8 (JP-8)<br>Support for new Java programming features including instant messaging/chat, banking, payment transactions, user identification and authentication through secure encryption technology. | Java 2, Micro Edition (J2ME™), Java 3D™<br><br>Yes | Java 2, Micro Edition (J2ME™), Java 3D™<br><br>Yes | Java ME Platform, Java 3D™<br><br>Yes |
| **Keys – navigation and more** | 4+1 navigation key<br><br>multimedia (play/stop) on navigation key centre<br><br>2 (left + right) selection keys<br><br>C (Clear) key<br><br>Activity menu key<br><br>Red end key<br><br>Green call key | 4+1 navigation key<br><br>multimedia (play/stop) on navigation key centre<br><br>2 (left + right) selection keys<br><br>C (Clear) key<br><br>Activity menu key<br><br>Red end key<br><br>Green call key<br><br>Internet key | 4+1 navigation key<br><br>multimedia (play/stop) on navigation key centre<br><br>2(left + right) selection keys<br><br>C (Clear) key<br><br>Activity menu key<br><br>Back key<br><br>Internet/operator key<br><br>Camera key |
| **Keys – keypad** | 12 alphanumeric | 12 alphanumeric | 12 alphanumeric |

| Feature | Z770i | K660 | Z610 |
|---|---|---|---|
| **Keys – side and other** | Volume key<br><br><br><br><br>On/off key | Volume/camera zoom key<br><br>Camera key<br><br><br><br>On/off key on top | Volume/camera zoom key<br><br>Multimedia (play/stop) key<br><br><br><br>On/off key |
| **Lunar calendar**<br><br>A calendar system used in China and other parts of Asia. A lunar month is determined by the period required for the moon to complete its full cycle of 29.5 days and is available in Chinese phone variants | Yes | Yes | Yes |
| **Adobe™ Flash Lite™**<br><br>For animated wallpapers, menus and other graphic elements | Yes | Yes | No |
| **Media**<br><br>A centre for all media content with horizontal and vertical navigation. You can view photos, listen to music, watch TV and video clips | Yes | Yes | No |
| **Media player** | See Music player and Video player | See Music player and Video player | See Music player and Video player |
| **Mega Bass™**<br><br>An audio feature which enhances bass frequencies for better overall music experience | Yes | Yes | Yes |
| **Memory (built-in)**<br><br>Phone memory that is free to use (depending on software configuration and file content). Many applications share phone memory. The maximum amount of storage available for any one application, such as calendar entries, is affected by the amount of memory used by other applications, such as messaging, music, pictures and so on | Up to 32 MB | Up to 64 MB | Up to 16 MB |

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| Feature | Z770i | K660 | Z610 |
|---|---|---|---|
| **Memory card reader (slot)** | | | |
| A slot for inserting a micro peripheral storage device | Yes | Yes | Yes |
| Memory card support: Memory Stick Micro™ (M2™) | Yes | Yes | Yes |
| **Menu shortcuts** A function making it possible to dedicate shortcuts to the most-used phone functions | Yes | Yes | Yes |
| **MMS (Multimedia messaging)** Picture messaging with text and sound | Yes | Yes | Yes |
| **MMS video** Support in the phone for sending video clips using MMS | Yes | Yes | Yes |
| **Modem** Circuit Switched/Packet Switched Internet dial-up support | Yes | Yes | Yes |
| **MusicDJ™** A sampler music tool with MIDI drum, guitar, keyboard, bass and brass loops in different music styles, which can be combined to create polyphonic ringtones | Yes | Yes | Yes |
| **Music listening time** | Up to 20 hours | Up to xx hours | Up to xx hours |
| **Music player 3.0** A digital music player with sideways navigation. Play music you have transferred or downloaded. The list structure system enables you, for example, to organize favourite songs into groups and create simple playlists. A practical play/stop function makes it easy to listen to music any time, anywhere. You can also manage settings and more | Yes | Yes | Yes |
| **Music player effects** Light and rhythm effects | No | No | No |

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| Feature | Z770i | K660 | Z610 |
|---|---|---|---|
| **Music player key**<br><br>Get direct access to your music files without having to browse the menus. Press the music player key to gain direct access to the music player | No | No | Yes |
| **Music tones**<br><br>Music tones, also called master tones, are DRM protected music by original artists. Various digital audio formats are supported | Yes | Yes | Yes |
| **My friends**<br><br>See Instant messaging | Yes | Yes | Yes |
| **Networks**<br><br>3G/HSDPA<br><br><br>GSM/GPRS/EDGE | UMTS 2100<br><br><br>GSM (R99) , 900, 1800, 1900. E-GSM 900 | UMTS 2100<br><br><br>GSM (R99) 850, 900, 1800, 1900. E-GSM 900 | UMTS 2100<br><br><br>GSM (R99) 900, 1800, 1900, E-GSM 900 |
| **OMA Data Synchronization (SyncML)**<br><br>A device communications standard that enables remote synchronization between devices | Yes<br><br>SyncML 1.2<br>SyncML 1.1 | Yes<br><br>SyncML 1.2<br>SyncML 1.1 | Yes<br><br>SyncML 1.2<br>SyncML 1.1 |
| **OTA settings**<br><br>Internet, email and other settings can be sent over the air to the phone | Yes | Yes | Yes |
| **Photo light (built-in)**<br><br>When lighting conditions are poor, activate the picture light | No | No | No |
| **PhotoDJ™**<br><br>A drawing tool in the phone where existing pictures can be altered | Yes | Yes | Yes |
| **Photo fix**<br><br>Improves an under-exposed picture by calculating and adjusting the light balance | Yes | Yes | No |

| Feature | Z770i | K660 | Z610 |
|---|---|---|---|
| **PictBridge™**<br><br>Transfer images from the phone via the USB cable directly to a printer, without a computer or photo editing software | Yes | Yes | Yes |
| **Picture gallery**<br><br>A thumbnail image gallery where sections of several pictures can be viewed at the same time | Yes<br><br>Use photo tags | Yes<br><br>Use photo tags | Yes<br><br>Use photo tags |
| **Picture phonebook**<br><br>Add a picture to a saved contact. The picture appears on the screen when the saved contact calls | Yes | Yes | Yes |
| **PlayNow™ (direct link)**<br><br>Listen to music before you purchase and download it to your phone | Yes | Yes | Yes |
| **PlayNow™ Games (direct link)**<br><br>Download and purchase games straight from the phone desktop | Yes | Yes | Yes |
| **Polyphonic voices** | 72(40 minimum>) | 72(40 minimum>) | 72 |
| **Predictive text input** | Yes | Yes | Yes |
| **Push email** | Yes | Yes | Yes |
| **GPS accessory support**<br><br>Connect to a GPS accessory either through Fast Port or Bluetooth wireless technology. The phone supports Google Maps, Wayfinder and navigation applications. | Yes | Yes | No |
| **RSS reader** | See Web feeds | See Web feeds | See Web feeds |
| **Web feeds ticker**<br><br>Scroll news headers in standby | Yes | Yes | Yes |

| Feature | Z770i | K660 | Z610 |
|---|---|---|---|
| **Screen**<br><br>Type:<br>Size:<br>Resolution:<br>Technology:<br>Colours displayed together:<br>Backlight colour:<br><br>External display:<br>Type:<br>Size:<br>Resolution:<br>Technology: | Full graphical<br>2.2 inches<br>320x240 pixels<br>TFT, QVGA<br>262,000 (18 bit)<br>White<br><br><br>Monochrome<br>1.1 inches<br>128x36 pixels<br>Super Twisted<br>Nematic (STN) | Full graphical<br>2.0 inches<br>320x240 pixels<br>TFT, QVGA<br>262,000 (18 bit)<br>White | Full graphical<br>2.0 inches<br>176x220 pixels<br>TFT, QCIF+alpha<br>262,000 (18 bit)<br>White |
| **Screen saver** | Yes | Yes | Yes |
| **Settings download (Ready to run)**<br><br>Set up functions that require a connection to the Internet such as the Internet browser and picture messaging.<br>This function runs in the setup wizard or can also be chosen in the Settings menu. This function is not included in the setup wizard for customized phones | Yes | Yes | Yes |
| **Shake control**<br><br>Shake control for music and gaming | No | No | No |
| **SIM card lock**<br><br>The possibility to protect the SIM card with a four-digit PIN code | Yes | Yes | Yes |
| **Smart search**<br><br>Search for numbers and contacts from standby by using the number keys. Call or send messages from a filtered list of search results. | Yes | Yes | No |
| **SMS long (Text messaging)**<br><br>Concatenated SMS text messaging | Yes | Yes | Yes |
| **Sleep mode**<br><br>A power-saving feature that minimizes the battery power consumed when the phone is in standby | Yes | Yes | Yes |

| Feature | Z770i | K660 | Z610 |
|---|---|---|---|
| **Sony Ericsson Remote Update Service**<br><br>Download the latest operator-approved software, over the air, for your mobile phone | Yes | Yes | Yes |
| **Sony Ericsson Update Service**<br><br>Connect the phone to an Internet-connected computer, download the latest operator-approved software from the Web site, www.sonyericsson.com/support and update the mobile device | Yes | Yes | Yes |
| **Sound recorder**<br><br>A recording device in the phone that can record voice messages or other sounds | Yes | Yes | Yes |
| **Speakerphone** | Yes | Yes | Yes |
| **Speed dialling**<br><br>Allocate contacts in the phone book to specific keys on the keypad | Yes | Yes | Yes |
| **Standby time**<br><br>GSM<br>UMTS | Up to:<br><br>340 hours<br>350 hours | Up to:<br><br>360 hours<br>310 hours | Up to:<br><br>400 hours<br>400 hours |
| **Status view**<br><br>The screen shows the network being used, the time and other status information | Yes | Yes | Yes |
| **Stopwatch** | Yes | Yes | Yes |
| **SVG Tiny**<br><br>Scalable Vector Graphics for impressive animated wallpapers, menus and other graphic elements | Yes | Yes | Yes |
| **Synchronization PC**<br><br>Synchronize and share phone content with a computer | Yes | Yes | Yes |
| **Talk time**<br><br>GSM<br>UMTS | Up to:<br><br>8.5 hours<br>4.5 hours | Up to:<br><br>10.5 hours<br>5 hours | Up to:<br><br>7 hours 20 minutes<br>2 hours 35 minutes |

| Feature | Z770i | K660 | Z610 |
|---|---|---|---|
| **Tasks**<br><br>Keeps track of important things you have to do | Yes | Yes | Yes |
| **Themes**<br><br>Phone menu texts and background graphics | Yes | Yes | Yes |
| **Timer**<br><br>Set the phone to alert after a specific time | Yes | Yes | Yes |
| **TrackID™**<br><br>Music recognition | Yes | Yes | No |
| Text search for artist, album, track, lyrics etc. | No | No | No |
| **UMTS** | Yes | Yes | Yes |
| **USB connectivity support**<br><br>Connect the phone to a computer using the USB cable provided. The memory in the phone appears on the computer screen as a mass storage device | Yes<br><br>USB 2.0<br>Full-Speed | Yes<br><br>USB 2.0<br>Full-Speed | Yes<br><br>USB 2.0<br>Full Speed |
| **USB ethernet emulation**<br><br>Connect to the Internet using the phone or the computer | Yes | Yes | Yes |
| **Vibrating alert**<br><br>The phone vibrates when a call comes in | Yes | Yes | Yes |
| **Video blogging**<br><br>Share video clips over the Internet on your personal Web site. The size of uploaded video clips is dependent on customizations | Yes | Yes | No |
| **Video call camera** | No | Yes | Yes |
| **Video calling**<br><br>When you make a video call, the other party can be seen on the screen. The service requires UMTS/WCDMA | No | Yes | Yes |

| Feature | Z770i | K660 | Z610 |
|---|---|---|---|
| **VideoDJ™**<br><br>Create video sequences by combining different clips and adding music and images | Yes | Yes | Yes |
| **Video player**<br><br>Play video clips you have transferred or downloaded. Transfer video clips to another phone or a computer using an available transfer method | Yes | Yes | Yes |
| **Video streaming**<br><br>Real-time streaming of video clips, for example, live cam. Media can also be downloaded and saved in the phone memory | Yes | Yes | Yes |
| **Viewfinder**<br><br>When using the camera, a picture can be previewed before it is captured | Yes | Yes | Yes |
| **Voice control**<br><br>Voice answer, reject and call. Assign voice commands to items in the phonebook. When a call is made, the voice command can be used instead of pressing keys | Yes | Yes | Yes |
| **Voicemail**<br><br>Support for voicemail operator service including automatic answering and message recording | Yes | Yes | Yes |
| **Walkman® key**<br><br>Get direct access to your music files without having to browse the menus. Press the Walkman® key to gain direct access to the Walkman® player | No | No | No |
| **Walkman® player**<br><br>A digital music player with sideways navigation. Play music you have transferred or downloaded. Play music files in the folder system, organize your favourite tracks into groups and create various playlists. | No | No | No |

| Feature | Z770i | K660 | Z610 |
|---|---|---|---|
| **WAP 2.0 XHTML™**<br><br>A mobile Internet standard to access specially designed Internet sites. WAP 2.0 supports colour and interactive lists | Yes | Yes | Yes |
| **Web feeds**<br><br>Frequently updated content delivered as feeds via a Web site, for example, news headlines in the browser | Yes | Yes | Yes |
| **Weight** | 92 g | xx g | 110 g |

# Facts and figures

This chapter offers readers a detailed listing of all the technical data relating to the product. Comprehensive descriptions of performance and technical characteristics are presented in table format for quick and easy access.

# Technical specifications

## General technical data

| | |
|---|---|
| System | Triple-band GSM Release 5 recommendations, GSM 900, e-GSM 900, GSM 1800, GSM 1900<br>Single-band 2100 HSDPA, cat 6 supported |
| Speech coding | HR,FR, EFR, AMR , supported where available, for high speech quality |
| GSM SIM/ UMTS USIM card | GSM SIM - GSM 11.11, UMTS SIM - 3GPP™ TS 31.101.<br>Small plug-in card, 1,8 V and 3 V |
| Memory | Up to 32 MB internal (depending on software configuration/file content) + extra slot for supported memory cards |
| Data transfer speeds | Up to 3.6 Mbps (downlink, HSDPA, cat 6)<br>Up to 384 Kbps (uplink, WCDMA R99) |

## Performance and technical characteristics

| Dimension | WCDMA 2100 |
|---|---|
| Frequency range (MHz) | TX:1920–1980<br>RX:2110–2170 |
| Channel spacing | 5 MHz with 200 kHz channel rasters |
| Number of channels | 277 |
| Modulation | QPSK (WCDMA R99)<br>QPSK/16 QAM (HSDPA) |
| TTI | 10 ms (WCDMA R99)<br>2 ms (HSDPA) |
| TX Phase Accuracy | Error Vector Magnitude: <17.5% |
| Duplex spacing | 190 MHz |
| Frequency stability | +/- 0.1 ppm |
| Voltage operation (nominal) | 3.6 V |
| Transmitter RF power output | 24 dBm Class 3 (0.25 W peak) |
| Transmitter Output impedance | 50 ohm |
| Transmitter Spurious emission (according to specification) | < -36 dBm up to 1 GHz<br>< -30 dBm over 1 GHz<br>(according to 3GPP™ spec.) |

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| Dimension | WCDMA 2100 |
|---|---|
| Receiver RF sensitivity | Better than -106.7 dBm @ 12.2 kbps CS voice |
| Receiver RX Bit error rate | < 0.1% |

| Dimension | GSM 850 | GSM 900/E-GSM 900 |
|---|---|---|
| Frequency range (MHz) | TX: 824–849<br>RX: 869–894 | TX: 880–915<br>RX: 925–960 |
| Channel spacing | 200 kHz | 200 kHz |
| Number of channels | 124 Carriers *8 (TDMA) | 174 Carriers *8 (TDMA) |
| Modulation | GMSK | GMSK |
| TX Phase Accuracy | < 5° RMS Phase error (burst) | < 5° RMS Phase error (burst) |
| Duplex spacing | 45 MHz | 45 MHz |
| Frequency stability | +/- 0.1ppm | +/- 0.1ppm |
| Voltage operation (nominal) | 3.6 V | 3.6 V |
| Transmitter RF power output | 33 dBm Class 4 (2 W peak) | 33 dBm Class 4 (2 W peak) |
| Transmitter Output impedance | 50 ohm | 50 ohm |
| Transmitter Spurious emission (according to specification) | < -36 dBm up to 1 GHz<br>< -30 dBm over 1 GHz | < -36 dBm up to 1 GHz<br>< -30 dBm over 1 GHz |
| Receiver RF sensitivity | Better than – 104 dBm | Better than – 102 dBm |
| Receiver RX Bit error rate | < 2.4% | < 2.4% |

| Dimension | GSM 1800 | GSM 1900 |
|---|---|---|
| Frequency range (MHz) | TX: 1710–1785<br>RX: 1805–1880 | TX:1850–1910<br>RX:1930–1990 |
| Channel spacing | 200 kHz | 200 kHz |
| Number of channels | 374 Carriers *8 (TDMA) | 299 Carriers *8 (TDMA) |
| Modulation | GMSK | GMSK |
| TX Phase Accuracy | < 5° RMS Phase error (burst) | < 5° RMS Phase error (burst) |
| Duplex spacing | 95 MHz | 80 MHz |
| Frequency stability | +/- 0.1ppm | +/- 0.1ppm |
| Voltage operation (nominal) | 3.6 V | 3.6 V |
| Transmitter RF power output | 30 dBm Class 1 (1 W peak) | 30 dBm Class 1 (1 W peak) |

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| Dimension | GSM 1800 | GSM 1900 |
|---|---|---|
| Transmitter Output impedance | 50 ohm | 50 ohm |
| Transmitter Spurious emission (according to specification) | < - 30 dBm | < - 30 dBm |
| Receiver RF sensitivity | Better than – 102 dBm | Better than – 102 dBm |
| Receiver RX Bit error rate | < 2.4% | < 2.4% |

# USSD technical data

| Feature | Support |
|---|---|
| USSD support | GSM Phase 1/2 (Cross-phase compatibility) |
| Mode support | UI-mode supported<br>SAT initiated USSD supported |
| UI-mode details | • It is possible to scroll the text up and down in USSD messages.<br>• It is possible to highlight embedded numbers and take actions accordingly. |

# GPRS technical data

| Dimension | Support |
|---|---|
| Compatible GPRS and SMG specifications | Release 99 according to ETSI specification |
| Data rates | Multislot class 10 supported (max 5 simultaneously)<br>CS-1, CS-2, CS-3, CS-4<br>9,050 bps, 13,400 bps, 15,600 bps, 21,400 bps supported (network-dependent) |
| Medium Access Modes | Dynamic allocation |
| Support of Packet Control Channels (PBCCH/PCCCH) | Yes |
| Network operation mode | NOM I, II, III |
| Support of GPRS/CS combined procedures | Yes |
| Network control mode | NC0 and 2 |
| Support of access in 2 phases | Yes |
| Support of PRACH on 11 bits | Yes |
| Support of GPRS re-selection C31/C32 | Yes |

| Dimension | Support |
|---|---|
| Support of static and dynamic addressing | Yes |
| Support of power control Uplink and Downlink | Uplink = yes, Downlink is a network feature |
| Support of ciphering algorithms | GEA1, GEA2, GEA3 |
| Support of compression algorithms | Yes, V42bis and IP header compression |
| Mode of operation | Class B and Class C modes of operation supported |
| R Reference point | Physical layer: Support of RS232<br>PPP is supported as L2 layer in the R reference point<br>Authentication algorithms PAP, CHAP supported |
| IP connectivity | PDP type IP is supported.<br>IP termination in mobile or TE (laptop, PDA) is supported |
| PDP context | 10 PDP context descriptions saved in the phone.<br>PDP context description is edited via application in the phone, AT-command or via OTA.<br>Simultaneous PDP contexts are supported, maximum 4 |
| SIM | GPRS aware, as well as non-GPRS aware, SIM cards are supported |
| AT commands | Some of the supported commands:<br>AT+CGDCONT - DEFINE PDP CONTEXT<br>AT+CGEQREQ - Quality of Service Profile (REQUESTED)<br>AT+CGEQMIN - Quality of Service Profile (Minimum Acceptable)<br>AT+CGATT - PACKET DOMAIN SERVICE ATTACH OR DETACH<br>AT+CGACT - PDP CONTEXT ACTIVATE OR DEACTIVATE<br>AT+CGDATA - ENTER DATA STATE<br><br>For more information, see www.sonyericsson.com/developer |

## SIM AT services supported

| Service | Mode | Support |
|---|---|---|
| CALL CONTROL BY SIM | | Yes |
| MO SMS CONTROL | | No |
| DATA DOWNLOAD TO SIM | Cell Broadcast<br>SMS | Yes<br>Yes |

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| Service | | Mode | Support |
|---------|---|------|---------|
| DISPLAY TEXT | | Text of up to 240 characters (120 UCS2 coded) | Yes |
| | bit 1: | 0 = normal priority | Yes |
| | | 1 = high priority | Yes |
| | bit 8: | 0 = clear message after a delay | Yes |
| | | 1 = wait for user to clear message | Yes |
| GET INKEY | | General: The GET_INKEY requires that the user confirms his/her choice | Yes |
| | bit 1: | 0 = digits (0-9, *, # and +) only | Yes |
| | | 1 = alphabet set | Yes |
| | bit 2: | 0 = SMS default alphabet | Yes |
| | | 1 = UCS2 alphabet | Yes |
| | bit 3: | 0 = character sets defined by bit 1 and bit 2 are enabled | Yes |
| | | 1 = character sets defined by bit 1 and bit 2 are disabled and the Yes/No response is requested | Yes |
| GET INPUT | | General: No. of hidden input characters | 252 |
| | bit 1: | 0 = digits (0-9, *, # and +) only | Yes |
| | | 1 = alphabet set | Yes |
| | bit 2: | 0 = SMS default alphabet | Yes |
| | | 1 = UCS2 alphabet | Yes |
| | bit 3: | 0 = ME may echo user input on the display | Yes |
| | | 1 = user input not to be revealed in any way (see note) | Yes |
| | bit 4: | 0 = user input to be in unpacked format | Yes |
| | | 1 = user input to be in SMS packed format | Yes |
| | bit 8: | 0 = no help information available | Yes |
| | | 1 = help information available | Yes |
| LAUNCH BROWSER | | | Yes |
| MORE TIME | | | Yes |
| PLAY TONE | | | Yes |
| POLLING OFF | | | Yes |
| POLL INTERVAL | | | Yes |

| Service | Mode | Support |
|---|---|---|
| PROVIDE LOCAL INFORMATION | '00' = Location Information (MCC, MNC, LAC and Cell Identity) | Yes |
| | '01' = IMEI of the ME | Yes |
| | '02' = Network Measurement results | Yes |
| | '03' = Date, time and time zone (DTTinPLI) | Yes |
| | '04' - Language setting | Yes |
| | '05' - Timing advance | Yes |
| REFRESH | General: The reset option requests the user to wait while the phone restarts | Yes |
| | '00' = SIM Initialization and Full File Change Notification | Yes |
| | '01' = File Change Notification | Yes |
| | '02' = SIM Initialization and File Change Notification | Yes |
| | '03' = SIM Initialization | Yes |
| | '04' = SIM Reset | Yes |
| SELECT ITEM | | Yes |
| SEND DTMF | | Yes |
| SEND SHORT MESSAGE | bit 1: 0 = packing not required<br>1 = SMS packing by the ME required | Yes<br>Yes |
| SEND SS | | Yes |
| SEND USSD | | Yes |
| SET UP CALL | General: Capability configuration<br>Set-up speech call CallParty<br>Subaddress DTMF support | Yes<br>No<br>Yes |
| | '00' = set up call, but only if not currently busy on another call | Yes |
| | '01' = set up call, but only if not currently busy on another call, with re-dial | Yes |
| | '02' = set up call, putting all other calls (if any) on hold | Yes |
| | '03' = set up call, putting all other calls (if any) on hold, with re-dial | Yes |
| | '04' = set up call, disconnecting all other calls (if any) | Yes |
| | '05' = set up call, disconnecting all other calls (if any), with re-dial | Yes |

| Service | Mode | Support |
|---------|------|---------|
| SET UP EVENT LIST | '00' = MT call | Yes |
| | '01' = Call connected | Yes |
| | '02' = Call disconnected | Yes |
| | '03' = Location status | Yes |
| | '04' = User activity | Yes |
| | '05' = Idle screen available | Yes |
| | '06' = Card reader status | Not Applicable |
| | '07' = Language selection | Yes |
| | '08' = Browser termination | Yes |
| | '09' = Data available | No |
| | 'OA' = Channel status | No |
| SET UP IDLE MODE TEXT | | Yes, 1 row of text is supported |
| SET UP MENU | | Yes |
| TIMER MANAGEMENT | | Yes |
| OPEN CHANNEL | | Yes |
| CLOSE CHANNEL | | Yes |
| RECEIVE DATA | | Yes |
| SEND DATA | | Yes |
| GET CHANNEL STATUS | | Yes |

## User Interaction with SIM AT

### Display text

Text of up to 240 characters (120 UCS coded) is supported.

Text clearing times are 5-20 seconds with a 60-second time-out limit for the user to clear the text. 'Key' responses:

- 'End key' – Proactive session terminated by user.
- 'Back' – Backward move in proactive session.

Any other key clears the screen if the command is performed successfully.

### Get inkey

Prompt for a one-character input. Pressing 'Ok' without entering a character gives warning message "Minimum 1 character". 'Key' responses:

- 'C' clears current character.
- 'End key' terminates the proactive session.
- 'Back' – Backward move in the proactive session.
- 'OK' – Command performed successfully.

## Get input

Prompt for character input. The phone will refuse to accept further input when maximum response length is exceeded. UI Maximum Response lengths:

- Digits Only – 160 characters.
- SMS default alphabet characters – 160 characters.
- Hidden Characters (digits only) – 20 characters.

'Key' responses:

- 'C' clears current character.
- 'End key' terminates the proactive session.
- 'Back' – Backward move in proactive session.
- 'OK' – Command performed successfully.

## Select item

Scroll to highlight item for selection. 'Key' responses:

- Navigational key press down – Scroll down list.
- Navigational key press up – Scroll up list.
- End key terminates proactive session.
- 'Back' – Backward move in proactive session.
- 'OK'– Command performed successfully.

## Send short message

Default message "Sending message, please wait" can be replaced for the Alpha Identifier text, or suppressed completely if a null text is provided. Default responses are "MESSAGE FAILED" or "MESSAGE SENT". 'Key' responses:

- End key or 'Back' ends the proactive session.

## Set up call

If you are on a call when the commands 'Set up Call', 'Putting all other calls on hold' are sent, the user will see the text 'Setting up a call current call will be held'. If 'OK' is pressed the current call will be put on hold and the new call set up. If the phone is on a call when the command 'Set Up Call, disconnecting all other calls' is sent, the user will see the text 'Setting up a call current call will be disconnected'. If the 'OK' key is pressed the current call will be disconnected and the new call set up.

## Set up menu

Incorporates a SIM Application Toolkit Menu Item into the ME's main menu structure.

If an Alpha Identifier is supplied in the Set Up Menu command, this is used as the SIM AT entry in the ME's main menu. If no alpha identifier is supplied and several items are found in the menu, a default title is used. If the SIM AT Menu Item is selected by pressing 'Select', all the items sent in the Set Up Menu command will be available for selection, in the same way as the Select Item command.

# Entertainment

## Audio and Video

| File types | Formats | Extensions |
|---|---|---|
| Audio<br>(All listed audio file formats are<br>supported ringtone file formats) | MP4<br>MP3<br>M4A<br>3GPP™<br>AMR-NB<br>AMR-WB<br>WAV<br>G-MIDI 1<br>SP-MIDI<br>RealAudio® 8<br>iMelody<br>XMF<br>WMA, Extension WMA | .mp4<br>.mp3<br>.m4a<br>.3gp<br>.amr<br>.awb, .amr<br>.wav<br>.mid<br>.mid<br>.ra, .rm<br>.imy<br>.xmf<br>.wma |
| Video<br>(including audio part) | MP4 (video: MPEG4, audio: AAC or AMR)<br>3GPP™ (video: MPEG4 or H.263, H.264, audio:<br>AAC or AMR)<br>RealVideo® 8<br>WMV | .mp4<br>.3gp<br><br>.rv, .rm<br>wmv, .asf |
| Streaming transport | RTSP according to 3GPP™ | |
| Video encoding | H.263 Profile 0, Level 10<br>MPEG-4 Simple Visual Profile Level 0 | |
| Video decoding | MPEG-4 Simple Visual Profile Level 0<br>H.263 Profile 0, Level 10<br>H.264 Baseline Profile (Main subset), Level 1b<br>RealVideo 8 | |
| Audio encoding | AMR-NB<br>AAC-LC (for video recording only) | |
| Audio decoding | MP3 (MPEG-1/2/2.5, audio layer 3), AAC,<br>AAC+, eAAC+, AMR-NB, AMR-WB, AMR-WB+,<br>RealAudio 8 (depending on configuration), WMA<br>version 2,7,8: Class 1, WMA version 9: Level 3, ,<br>GM, GML, SP-MIDI | |

# Java™

| Feature | Functionalities |
|---------|-----------------|
| **Java™ Platform, Micro Edition** | • JSR-75 PDA/File<br>• JSR-82 Bluetooth Wireless Technology API<br>• JSR 118 MIDP 2.1<br>• JSR-120 Wireless Messaging API<br>• JSR-205 Wireless Messaging API 2.0<br>• JSR-135 MMAPI 1.1<br>• JSR 139 CLDC 1.1<br>• JSR-172 Web Services<br>• JSR-177 Security and Trust Services<br>• JSR-179 Location<br>• JSR-180 SIP<br>• JSR-184 Mobile 3D Graphics<br>• JSR 185 Java™ Technology for the Wireless Industry<br>• JSR-211 Content Handler<br>• JSR-226 SVG<br>• JSR-229 Payment<br>• JSR-234 Adv Multimedia Supplements<br>• JSR-238 Mobile Internationalization<br>• JSR-239 OpenGL ES<br>• JSR-248 Mobile Service Architexture<br>• Nokia UI API |
| **Java 3D** | • Mascot Capsule Ver.3<br>• JSR-239 OpenGL ES<br>• JSR-184 Mobile 3D Graphics API for J2ME™ |

# Imaging/Messaging

## 2.0 Megapixel camera

| **Digital still camera (DSC)** | |
|--------------------------------|---|
| True colour | Yes |
| Digital zoom | Main camera: 2.5x zoom for pictures (in VGA mode) |
| Still camera settings bar | |
| Shoot modes | Normal, Burst, Panorama, Frames |
| Picture sizes (resolution) | **2 MP** (1600x1200 pixels)<br>**1 MP** (1280x960 pixels)<br>**VGA** (640x480 pixels)<br>Note: MP = Megapixel |
| Focus | No |

| | |
|---|---|
| Flash (Xenon) | No |
| Self-timer | Off, On |
| Effects | Off, Black & white, Negative, Sepia |
| White balance | Auto, Daylight, Cloudy, Fluorescent, Incandescent |
| Still camera setup | |
| Picture quality | Normal, Fine |
| Shutter sounds | Yes |
| Image stabilizer | No |
| Reset file number | Yes |
| Save to memory | Memory card, phone memory |
| **Video recorder** | |
| Video size (resolution) | QVGA (320x240) pixels |
| Frame rate | 30 fps (frames per second) |
| Video camera settings bar | |
| Video clip length | Up to 2 hours, For picture message |
| Focus | Fixed |
| Night mode | Off, On |
| Self-timer | Yes, same as camera |
| Effects | Yes, same as camera |
| White balance | Yes, same as camera |
| Turn on/off microphone | Off, On |
| Video camera setup | |
| Image stabilizer | No |
| Reset file number | Yes, same as camera |
| Save to memory | Yes, same as camera |

# Images

Images can be shared using a Bluetooth connection, MMS, email message, computer file transfer or memory card.

The image size is limited by the amount of free RAM.

| Formats | Details |
|---------|---------|
| JPEG | ISO/IEC JPEG<br>Baseline DCT<br>Progressive DCT<br>Non-differential<br>Unlimited size |
| GIF | 87a, 89a, support for interlacement, animation and transparency.<br>Unlimited size |
| BMP | Windows® bitmap format |
| PNG | Unlimited size |
| SVG | SVG Tiny 1.2 |
| WBMP | Wireless bitmap<br>Unlimited size |

# Supported character set

| Decoding text (Incoming MMS) | |
|---------|---------|
| US-ASCII | UTF-16 |
| ISO-8859-1 | KOI8-R |
| ISO-8859-2 | GB2312 |
| Windows-1251 | GB 18030 |
| ISO 10646 (UCS-2) | GB 13000 |
| UTF-7 | BIG-5 |
| UTF-8 | |

| Coding Text (Outgoing MMS) |
|---------|
| UTF-8 |

# Short Messaging Service

| Feature | Support |
|---------|---------|
| SMS Service Centre Number | It is possible to pre-load the SMS Service Centre Number |
| Pictures | It is possible to insert a picture or an icon into the text message. EMS compliant mobile phones will be able to see the picture correctly |
| Reply to messages | It is possible to reply to received messages by SMS, MMS, voice message and email |

| Feature | Support |
|---|---|
| Capacity storage | Up to 10000 (depending on available memory) and the space on the SIM card. |
| Input methods: | Predictive writing and multitap |
| Copy and paste words | Yes |
| Teaching of predictive words that are not in the predictive dictionary | Yes |
| Possibilities when creating a message: | |
| Save a sent message in a "Sent items" folder | Yes |
| Insert a line in the message | Yes |
| Assign a validity period to the message | Yes |
| Use predefined messages | Yes |
| Possibilities when receiving a message: | |
| Reply to the sender | Yes |
| Forward the message | Yes |
| Save the message on the SIM card | Yes |
| Get delivery time and date | Yes |
| Possibilities of the previously sent message: | |
| Delivery report of the message | Yes (if requested when sending) |
| Forward the message | Yes |
| Save the message on the SIM card | Yes |
| Know the remaining capacity storage | Yes, > 95% full warning, capacity on SIM when saving to SIM |
| Possibilities of the previously received message: | |
| Reply to the sender | Yes |
| Save the message in the inbox | Yes |
| Forward the message | Yes |
| Know the remaining capacity storage | Yes, > 95% full warning, capacity on SIM when saving to SIM |
| Supported ways for replying to a received text message: | |
| Via SMS, MMS, voice message, email | Yes |
| Via phone call (set up a call to the number contained in the message body) | Yes |

| Feature | Support |
|---------|---------|
| Via WAP call (go to the WAP address contained in the message body) | Yes |
| Via USSD session | No |
| Print via infrared | No |
| Possibility to enable the user to send a text message to a list of recipients | Yes |
| Possibility to write an email address as a recipient address | Yes, if email gateway is present |
| SMS storage | On the SIM card, in phone memory or on memory card |
| Nokia Picture Messaging | Yes |

# Enhanced Messaging Service

| Feature | Support |
|---------|---------|
| Level of compliance supported by the phone regarding the specifications described in release 99 | Enhanced Messaging Service (EMS) according to the standard 3GPP™ TS 23.040 v4.3.0, with the addition of the ODI feature from 3GPP™ TS 23.040 v5.0.0 |
| Number of messages that the phone is able to handle to generate a concatenated message | 10 |
| Capacity storage | Up to 10000 (depending on available memory) and the space on the SIM card. |
| Outgoing messages | It is possible to:<br>• See how many short messages an EMS message consists of before sending it.<br>• Choose whether to send the message or not after writing it. |
| Incoming messages | • A signal is heard once all parts of the message have been received or when a time-out occurs.<br>• It is possible to re-use the content of an EMS message. Sounds, pictures, and animations can be inserted in a new message, if the object is not protected using ODI. |
| Delivery report for concatenated messages | A receipt is received in the phone when all parts of a concatenated message have been delivered if a delivery report is requested when it is being sent |
| Insert objects | It is possible to add pictures, animations and sounds to an EMS message |
| Sounds | Chimes high, chimes low, ding, tada, notify, drum, claps, fanfare, chords high, chords low |
| I-melody | Yes, version 1.2 |

| Feature | Support |
|---|---|
| Melodies | It is possible to:<br>• Receive (always), send using EMS (if not copyright protected).<br>• Download melodies and commercial tunes from the Web. |
| WBMP | Yes |
| Picture sizes | 16x16, 32x32 pixels, variable size in black and white |
| Pictures | It is possible to:<br>• Edit pictures using PhotoDJ™.<br>• Receive (always), send using EMS (if not copyright protected).<br>• Download pictures from the Web. |
| Animations | There is support for the following animations: Angry, Crying, Flirty, Happy, Kiss, Sad, Tongue, Wow, Confused, Devil, Glasses, Indifferent, Laughter, Sceptical and Wink, as defined in 3GPP™ TS 23.040 v4.3.0.<br>It is possible to send and receive animations |
| TP-PID field value given by the phone before sending an EMS message | 0x00 |

# Multimedia Messaging Service

| Feature | Support |
|---|---|
| MMS/CSD parameters and MMS/GPRS parameters placement | MMS is bound to an MMS profile.<br>A MMS profile is bound to a Data account.<br>A data account contains either CSD parameters or GPRS parameters and possibly proxy settings |
| Capacity storage | Up to 500 (depending on available memory) |
| Possibility to pre-configure the MMS parameters in the factory | • MMS/CSD: Yes<br>• MMS/GPRS: Yes |
| Possibility to configure the MMS parameters by OTA provisioning | • MMS/CSD: Yes<br>• MMS/GPRS: Yes |
| Possibility for all the parameters from the parameters set to be OTA provisioned at the same time | • MMS/CSD: Yes<br>• MMS/GPRS: Yes |
| Possibility for only one parameter, in the set of parameters, to be OTA provisioned | • MMS/CSD: No<br>• MMS/GPRS: No |
| OTA provisioning solution | OMA provisioning |
| Supplier indication of realized interoperability tests between its MMS User Agent and MMS Relay/Server from other suppliers | Yes |

| Feature | Support |
|---|---|
| Support of a standard procedure for OTA provisioning of MMS parameters | OMA provisioning |
| Functionalities that the user is able to set during message composition: | • Message subject<br>• Message priority<br>• Email recipient address<br>• Message Cc, Bcc recipient(s) address(es)<br>• Delivery report request<br>• Read report request<br>• MSISDN recipient address<br>• Delivery time<br>• Validity period |
| From where can the user insert multimedia elements into multimedia messages: | File Manager<br>Photo album<br>Camera<br>Contacts<br>Calendar<br>Task<br>Note<br>Browser (vBookmark)<br>VideoDJ™<br>PhotoDJ™<br>MusicDJ™<br>Sound recorder |
| Possibility for sent messages to be memorized into a folder in phone memory | Yes |
| Actions that the user can perform after message retrieval: | • Reply to the sender of the message SMS/MMS<br>• Reply to the sender and to Cc, Bcc people SMS/MMS<br>• Forward the message<br>• Delete the message<br>• Save message in a dedicated folder<br>• Call the sender of a message<br>• Save item<br>• Mark as unread<br>• Details |
| Multimedia codecs/formats supported for audio | AAC, AMR, MPEG Layer 3, Real 8, AWB, WAV, MP4, MIDI, iMelody, 3GPP™, XMF, M4A, WMA |
| Multimedia codecs/formats supported for video | MPG4, 3GPP™, SDP, Real 8, WMV |
| Multimedia codecs/formats supported for image | JPEG, GIF87, GIF89A, PNG, SVG, WBMP, BMP |
| Supported formats for message presentation: | • Message body plus attachments (email presentation)<br>• SMIL version as described in OMA MMS IOP document version 1.2 |
| Maximum message size that can be handled by the phone | Content Class and Creation mode are applied. Maximum size can also be customized |

| Feature | Support |
| --- | --- |
| Maximum number of objects supported in a message | 30 objects is standard. It is possible to increase the number through configuration |
| Maximum text size | 5,000 characters/text |

# Email client technical data

| Feature | Support |
| --- | --- |
| Bearer type UMTS (IP) | Yes |
| Bearer type GSM Data (IP) | Yes, GPRS, HSCSD, ISDN and analog |
| Character sets | ISO: ISO-8859-1, ISO-8859-2, ISO-8859-5, ISO-8859-7, ISO-8859-9, ISO-8859-10<br>Windows: Windows-1251, Windows-1252, Windows-1254, Windows-1255, Windows-1258<br>US-ASCII<br>Unicode: UTF-7, UTF-8, UTF-16<br>Japanese: Shift_JIS, ISO-2022-JP<br>Cyrillic: KOI8-R<br>Simplified Chinese: GB2312, GB18030<br>Traditional Chinese: Big5<br>Thai: TIS-60 |
| OTA provisioning solution | Yes |
| Protocols | POP3 and IMAP4 |
| Push email | IMAP Idle (extension of IMAP4Rev1), OMA Email Notification 1.0 and scheduled checking, Exchange Active Sync (EAS) |
| Secure email | SSL/TLS, both port methods (POPS/IMAPS) and STARTTLS |
| Remote configuration | OMA Client Provisioning |
| HTML mail | Yes (tags removed) |
| Thumbnailed image attachments | Yes |
| Message management | User selectable inbox size, save messages to Memory Stick, arrange messages by date, size and Email address. Headers only or size limits |
| ESMTP | Yes |
| Background sending | Yes |

# Connectivity

## Bluetooth™ technical data

| Dimension | Support |
|---|---|
| Bluetooth capability statement | This phone supports Bluetooth Specification, version 2.0 with enhanced data rate (EDR) |
| Bluetooth profiles | Basic Imaging Profile<br>Dial-up Networking Profile<br>File Transfer Profile<br>Generic Access Profile<br>Generic Object Exchange Profile<br>Handsfree Profile<br>Headset Profile<br>Human Interface Device (HID) Profile<br>Java API<br>Object Push Profile<br>Personal Area Networking Profile<br>Serial Port Profile<br>Synchronization Profile<br>SyncML OBEX binding<br>Advanced Audio Distribution Profile (A2DP)<br>Audio/Video Remote Control Profile<br>Phonebook Access Profile |
| Connectable devices | All products supporting Bluetooth spec. 1.1, or higher, and at least one of the profiles above |
| Coverage area | Varies due to radio performance on remote device and the occurrence of obstacles. Up to 10 metres (33 feet) |
| Transmission power | Class 1, typical +3 dBm or 2 mW |
| Frequency band | 2.4 GHz – the unlicensed ISM band |
| Power consumption | GSM host processor excluded:<br>• Standby, Bluetooth On mode: <0.6 mA<br>• Voice to headset (HV3 master): 11 mA (7 mA with EDR functionality, 2EV3 master). Dependent on various parameters such as if the phone is master or slave<br>• Data mode average: 27mA at 172.8 Kbps symmetrical (DH1) |

# OMA Data Synchronization (SyncML™) technical data

| Feature | Support for Sync ML |
|---------|---------------------|
| SyncML compliance | The phone is fully SyncML compliant, having passed SyncML Conformance testing. SyncML 1.2 or SyncML 1.1.2 is used depending on configuration and both are supported in Server-alerted synchronization |
| Basic data formats | Contacts: vCard 2.1, Calendar: vCalendar 1.0 (vEvent) Tasks: vCalendar 1.0 (vTodo) Notes: text/plain, Bookmarks:vBookmark 1.0 |
| Possibility for operators to extend SyncML functionality | The device may be configured to include preset SyncML settings, and to control whether SyncML 1.1 or SyncML 1.2 will be used |
| Transport method for SyncML messages | HTTP, HTTPS, OBEX (USB, Bluetooth) |
| Possibility for the user to configure login parameters (for example, username and password) to access the remote database | Yes |
| Configuration parameters that can be entered/modified by the user | Server URL, Username, User PWD, Paths to databases (Calendar, Contacts, Notes, Tasks and Bookmarks), UserID and PWD for databases, Databases to be synchronized (On/Off), Internet profile, Synchronization interval, Server ID and Server PWD, permission to allow server-alerted synchronization and roaming options. Can be provisioned with OMA Client provisioning v1.1 and OMA Device Management v1.2 |
| Ability to deal with multiple servers | Yes |
| Ability to perform conflict resolution actions | No |

# Microsoft® Exchange ActiveSync®

| Feature | Support for Exchange ActiveSync |
|---------|--------------------------------|
| Protocol version | The phone supports version 2.5 of Microsoft Exchange ActiveSync |
| Supported applications | Email, Calendar, Phonebook |
| Transport method used | HTTP, HTTPS |
| Possibility for the user to configure login parameters for remote server | Yes |
| Configuration parameters that can be entered/modified by the user | Server URL, username, domain name, password, applications to sync, email message size, email attachment size, email date range, message alert sound, calendar date range, interval sync, secure connection, roaming option |

| Feature | Support for Exchange ActiveSync |
|---|---|
| Ability to use multiple servers | No |
| Ability to perform conflict resolution | No |

# Web browser technical data

| Feature | Support in the browser |
|---|---|
| Bookmarks | Yes, with folders and sorting supported |
| Bookmark Export/Import | Yes, can be sent and received using vBookmark format using Bluetooth™, SMS, MMS and email |
| Browser compliancy | The Web browser is compliant with the following standards: HTML ver. 4.01 XHTML Basic 1.0 XHTML 1.1, Module-based XHTML XHTML Mobile profile Compact HTML for Small Information Appliances WML 1.3 Cascading Style Sheets, level 2 revision 1, CSS 2.1 Specification WAP CSS Specification, Version 26-Oct-2001 (WAP-239-WCSS-20011026-a) ECMA-script according to specifications found at http://www.ecma-international.org/publications/standards/Stnindex.htm ECMAScript Mobile Profile AJAX (Asynchronous JavaScript and XML) Document Object Model Level 2 (DOM 2) Scalable Vector Graphics, Mobile SVG Profile: SVG Tiny, version 1.2 For further details, see the *WAP User Agent strings and profiles for Sony Ericsson mobile phones* Developers guidelines at Developer World http://developer.sonyericsson.com/ |
| Browser version | Access NetFront 3.4 |
| Cache | Yes (size 300 KB and 1 MB Flash) |
| Character sets * | Most standard character sets, among others UTF-8 (Default), UTF-16, USASCII, Latin1, UCS2. For updated and detailed information, see the *WAP User Agent strings and profiles for Sony Ericsson mobile phones* Developers guidelines at Developer World http://developer.sonyericsson.com/  * When creating pages, it is recommended to always save the page contents as UTF-8. |
| Clear cache | Yes, persistent. By user interaction, at SIM card change or master reset |
| Frames | Full Frame support: Frames, IFrames |
| Image formats and animations | GIF (interlaced and non-interlaced) WBMP, JPEG, PNG, BMP and SVG. Animated GIFs, animated SVG and Flash |

| Feature | Support in the browser |
|---|---|
| Schemes | Wtai, mailto:, smsto:, tel, rtsp, http, https |
| Streaming | Progressive download, RTSP, Java script controls |
| Web feeds | Ticker, podcasts, enclosures, OPML import. No support for ATOM |
| **User agent profile** | |
| User Agent Profiles | Yes, list of client characteristics - for example screen size. For details, see the *WAP User Agent strings and profiles for Sony Ericsson mobile phones* Developers guidelines at Developer World http://developer.sonyericsson.com/ |
| URL sent pointing to the UA profile at the beginning of browser session | Yes. For details, see the *WAP User Agent strings and profiles for Sony Ericsson mobile phones* Developers guidelines at Developer World http://developer.sonyericsson.com/ |
| **Download** | |
| OMA download functionality | Yes |
| HTTP GET solution to download content/ Uses browser for download | Yes |
| Other download content | Yes. No download limit when using HTTP protocol |
| Download application/product memory check | Yes |
| Downloaded object solution | Yes. The user is informed where the content is saved and asked if it should be used at once or later |
| UAP indication for downloading | Yes |
| Other features | Yes. Save, delete, forward, use, manage |
| Object formats | All formats can be downloaded and saved, but only formats supported by the phone can be used by the phone |
| Resume | Yes |
| Background download | Yes |
| Progressive download | Yes |
| Streaming | Yes |
| **Browser GUI** | |
| Selection keys | Yes. Two selection keys and centre navigation key |
| Separate/dedicated back or erase keys | Yes |
| Display backlight on when browsing | Yes |
| Predictive writing | Yes |

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| Feature | Support in the browser |
| --- | --- |
| "http://" string displayed automatically when entering URLs | Not displayed but the "http://" is added automatically to the URL |
| "www" added automatically when entering URLs | No |
| Combined Search/Go To input field | Intelligent input field changes appearance (Search or Go to) depending on user input. "www", ".com" and other URL syntax can be used to trigger the Go To appearance |
| **Internet network features** | |
| Bluetooth (as local connection) | Yes |
| Infrared (as local connection) | No |
| Network settings | Yes |
| PPP Authentication | PAP, CHAP supported |
| Security | HTTPS authentication<br>TLS version 1<br>SSL version 3<br>WIM on SIM ICC<br>X.509 certificate support, WAP Profile<br>WPKI OTA download of trusted certificates |
| USB (as local connection) | Yes |
| **PUSH** | |
| **Content types** | |
| Service Indication (SI) | Yes |
| Service Loading (SL) | Yes |
| Cache Operation (CO) content type | No |
| Session Initiation Application (SIA) | Yes |
| **Man Machine Interface** | |
| SI/content retrieval postponing | Yes |
| SI menu structure accessibility | Messaging, Inbox |
| SL reception warning | The user can make a choice if a dialogue is wanted or not before loading the SL |
| SIA reception warning | Yes |
| Cache size limitations | The oldest push in the inbox will be discarded |
| Number of push messages | Depends on the size of the push messages. Around 20 push messages with a size of 1024 bytes URL and 1024 bytes Indications for Service Indication can be saved |

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| Feature | Support in the browser |
|---|---|
| Push deactivate | Yes |
| Dynamic push menu changes | No. There are no changes in the menus when activating/deactivating push |
| **Security** | |
| Mechanisms for push | None |
| Trust with PPG | Sending a SIA is the most reliable |
| WSP push sessions | No |
| HTTP push sessions | The White List (a setting to allow push messages only from certain addresses) is supported for IP address |
| SMS connection-less push | The White List (a setting to allow push messages only from certain addresses) is supported for SMS Center |
| Denial of service/spoofing | Setting to select when to allow push messages: Always, always ask or never. There is also a setting to select whether to allow push messages from all senders or only from certain addresses (the White List) |

# Client Provisioning

| Feature | Support | |
|---|---|---|
| **Provisioning** | | |
| **Provisioning types** | **OMA Client provisioning (v1.1)** | |
| Total Parameter sets | 10 (shared between the WAP provisioning types)<br>< or = 10 (total number of data accounts) | |
| Parameter set list | name,<br>homepage and homepage title (1st bookmark element),<br>proxy/GW address,<br>bookmarks (remaining bookmark elements),<br>CSD phone number,<br>CSD data rate,<br>CSD dial type,<br>GPRS APN,<br>protocol authentication,<br>GW authentication,<br>secure connection on/off | name,<br>homepage,<br>proxy/GW address,<br>CSD phone number,<br>CSD data rate,<br>CSD dial type,<br>CSD response timer,<br>GPRS APN,<br>protocol authentication,<br>GW authentication,<br>GPRS QoS |
| Parameter sets include | CSD, GPRS (different sets) | |
| Factory pre-configuration | CSD (possibility to lock a setting), GPRS | |
| **OTA** | CSD, GPRS configuration possible | |

| Feature | Support |
|---|---|
| **Security mechanism** | |
| **Bearer** | **OMA Client Provisioning** |
| OTA via SMS | Uses security mechanism (SEC) methods according to OMA-WAP-ProvCont-v1_1-20050428-C(see [www.openmobilealliance.org](http://www.openmobilealliance.org)) |
| **Interface** | |
| **Bearer** | **OMA Client Provisioning** |
| OTA via SMS | For NETWPIN the user is asked to accept to install received settings. For USERPIN, USERNETWPIN and USERPINMAC the user is subsequently asked to enter a PIN code that is a shared secret between the service provider and the user |
| Re-provisioning Interface | OMA Client Provisioning |
| OTA via SMS | If the settings previously installed were privileged or have higher priority, it might not be possible to install the settings again unless the terminal is reset, otherwise as above |
| Carrier reset/provisioning | Yes, but not if the set is pre-configured in the factory and locked |
| SWIM | Not used for provisioning. The SWIM is only used for WAP security, both SSL/TLS connections and digital signatures |
| **Applicative provisioning** | |
| Preferred bearer customization | Yes |
| Other applications/features | Yes (MMS, Email, OMA Data Synchronization, Wireless Village, OMA Device Management, Streaming) |
| **Technologies** | |
| OMA Client provisioning | Yes, Client Provisioning version 1.1 |
| Openwave OTA | No |
| Other | No |
| Provisioning bearer | SMS |

| Feature | Support |
| --- | --- |
| Parameter sets available | Yes |
| Parameter sets for OTA modification | Yes |

# Abbreviations

**3GPP™**

3rd Generation Partnership Project

**AAC+**

Advanced Audio Coding

**AMR**

Adaptive Multi Rate. Audio format for speech sounds

**AMR-NB**

Adaptive Multi Rate Narrow Band

**API**

Application Programming Interface

**Bluetooth PAN**

Bluetooth Personal Area Network

**CS**

Circuit Switched

**CSD**

Circuit Switched Data

**DRM**

Digital Rights Management. Controlling copying and distribution of contents, with respect to intellectual property rights

**DTMF or Touch Tone**

Dual Tone Multi-Frequency signal. Codes sent as tone signals. Used for telephone banking, accessing an answering machine, etc.

**EDGE**

Enhanced Data Rates for GSM Evolution

**e-GSM**

Extended GSM. New frequencies specified by the European Radio Communications Committee (ERC) for GSM use when additional spectrum is needed (network-dependent). It allows operators to transmit and receive just outside GSM's core 900 frequency band. This extension provides increased network capability

**eAAC+**

Enhanced Advanced Audio Coding

**EDR**

Enhanced Data Rate

**EFR**

Enhanced Full Rate, speech coding

**EMS**

Enhanced Messaging Service. Allows the user to add simple pixel pictures and animations, sounds and melodies to a text message. The EMS 3GPP™ standard also includes text formatting

**ETSI**

European Telecommunications Standards Institute

**FM**

Frequency Modulation of the (radio) carrier wave

**FR**

Full Rate, speech coding

**GIF**

Graphics Interchange Format

### GPRS

General Packet Radio Services

### GSM

Global System for Mobile Communications. GSM is the world's most widely used digital mobile phone system, now operating in over 100 countries around the world, particularly in Europe and Asia-Pacific.

The GSM system family includes GSM 850, GSM 900, GSM 1800 and GSM 1900. There are different phases of roll-out for the GSM system and GSM phones are either phase 1 or phase 2 compliant

### HR

Half Rate, speech coding

### HSCSD

High Speed Circuit Switched Data

### HSDPA

High Speed Downlink Packet Access

### HTML

HyperText Markup Language

### HTTP

HyperText Transfer Protocol

### IrDA™

Infrared Data Association

### JPEG

Joint Photographer Expert Group

### MIDI

Musical Instrument Digital Interface

### ME

Mobile Equipment

### MMI

Man-Machine Interface. See UI

### MP

Megapixel

### MP3

Short for "MPEG-1 layer 3", an effective audio coding scheme

### MPEG4/MPG4

MPEG-4 extends the earlier MPEG-1 and MPEG-2 algorithms with synthesis of speech and video, fractal compression, computer visualisation and artificial intelligence-based image processing techniques

### MT

Mobile Termination

### ODI

Object Distribution Indicator

### OMA

Open Mobile Alliance

### OTA

Over-The-Air Configuration. To provide settings for the phone by way of sending an SMS message over the network to the phone. This reduces the need for the user to configure the phone manually

### PDA

Personal Digital Assistant

### PDP

Packet Data Protocol

### PIM

Personal Information Management

### PNG

Portable Network Graphic

**QCIF**

Quarter Common Intermediate Format

**QVGA**

Quarter Video Graphics Array

**RDS**

Radio Data System

**RSS**

Really Simple Syndication

**RTSP**

Real Time Streaming Protocol session control

**SI**

Service Indication

**SL**

Service Loading

**SIM card**

Subscriber Identity Module card – a card that must be inserted in any GSM-based mobile phone. It contains subscriber details, security information and memory for a personal directory of numbers. The card can be a small plug-in type or credit card-sized, but both types have the same functions. The phone uses the small plug-in card.

**SMS**

Short Messaging Service. Allows messages of up to 160 characters to be sent and received via the network operator's message centre to a mobile phone

**SP-MIDI**

SP-MIDI stands for Scalable Polyphony MIDI

**SS**

Supplementary Services

**SSL**

Secure Socket Layer

**STN**

Super Twisted Nematic

**TLS**

Transport Layer Security

**TTI**

Transmission Time Interval

**UI**

User Interface

**URL**

Uniform Resource Locator

The global address of documents and other resources on the World Wide Web

**USSD**

Unstructured Supplementary Services Data

**vCard**

vCard automates the exchange of personal information typically found on a traditional business card, for use in applications such as Internet mail, voicemail, Web browsers, telephony applications, call centres, conferences, PIMs /PDAs, pagers, fax, office equipment and smart cards. vCard is specified by IETF

**VGA**

Video Graphics Array

**WAP**

Wireless Application Protocol. Handheld devices, low bandwidth, binary coded, a deck/card metaphor to specify a service. A card is typically a unit of interaction with the user, that is, either presentation of information or request for information from the user. A collection of WML cards is called a deck, which usually constitutes a service

## WAP Application

A collection of WML cards, with the new context attribute set in the entry card

## WAP service

A WML application residing on a Web site

## WAV

Waveform audio format

## WMA

Windows Media Audio

## WBMP

Wireless BitMap

A graphic format optimized for mobile computing devices

## WCDMA

Wideband Code Division Multiple Access

## WML

Wireless Markup Language. A markup language used for authoring services, fulfilling the same pur-pose as HyperText Markup Language (HTML) does on the World Wide Web (WWW). In contrast to HTML, WML is designed to fit small handheld devices

## WSP

Wireless Session Protocol

## WWW

World Wide Web

## XHTML

Extensible HyperText Markup Language

## XML

Extensible Markup Language

# Related information

## Documents

- Sony Ericsson User guide
- Sony Ericsson FAQ
- AT Command Reference Manual
- WAP 2.0 Specifications

## Links

- www.sonyericsson.com/
- www.ericsson.com/mobilityworld/
- www.midi.org
- www.extendedsystems.com
- www.gsmworld.com/
- www.bluetooth.com
- www.imc.org
- www.3gpp.org
- www.irda.org
- www.etsi.fr
- www.openmobilealliance.org
- www.imc.org/pdi/
- www.w3.org/TR/xhtml-basic/
- www.java.sun.com
- www.memorystick.org/
- www.memorystick.com/
- www.sonyericsson.com/updateservice
- www.sonyericsson.com/support

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